Remarks

Claims 1, 2, 4-14, 16-37, 42-63, and 70-78 are pending in the application, of which claims 1 and 70 are in independent form. Claims 64-69 were previously withdrawn from consideration in response to a restriction requirement. Claims 38-41 are now also withdrawn from consideration as not being consistent grammatically with claim 1, as amended. Claims 66-68 are now cancelled herein, subject to being re-filed in a divisional or continuation application.

Claims 74-78 are added by this amendment. Due to cancellation of claims 3, 15, and 66-68 herein, no additional claims fees are due.

Claims 1-63 and 70-73 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,482,262 of Elers et al. Applicant traverses and requests reconsideration in view of the amendments to claims 1 and 70, discussed below.

Applicant wishes to thank the examiner for the courtesy of a telephone interview on December 21, 2005, during which the grounds for rejection were discussed and the present invention distinguished over Elers. During the interview, the examiner suggested that the rejection over Elers might be obviated by amending the base claims to recite a reaction between the organometallic chemical and the transition metal chemical to form the carbon- and transition metal-containing film.

Accordingly, applicant proposes amendments to claims 1 and 70 and adds new claims 74-78 that it believes clearly distinguish over the cited references.

For example, with respect to claim 1 (as amended), Elers does not describe or suggest:

> "(a) placing the substrate into a reaction space;
>
> (b) introducing a first chemical into the reaction space such that at least a portion of the first chemical is adsorbed onto the substrate surface;
>
> (c) after introducing the first chemical, purging the reaction space;
>
> (d) introducing a second chemical into the reaction space such that at least a portion of the second chemical reacts with the adsorbed first chemical, wherein the first chemical is one of a transition metal chemical and an organometallic chemical, and the second chemical is the other of the transition metal chemical and the organometallic chemical;
>
> (e) after the introducing the second chemical, purging the reaction space;

(f) introducing a third chemical into the reaction space, wherein the third chemical is the same chemical as the first chemical; and

(g) after introducing the third chemical, purging the reaction space,

the organometallic chemical including carbon and a metal, the transition metal chemical and the organometallic chemical reacting together such that carbon from the organometallic chemical and transition metal from the transition metal chemical together form a carbon- and transition metal-containing film on the substrate."

And with respect to claim 70 (as amended), Elers does not teach or suggest:

"introducing a starting pulse chemical into the reaction space such that at least a portion of the starting pulse chemical is adsorbed onto the substrate surface; and

introducing a first chemical and a second chemical into the reaction space in an alternating sequence such that at least a portion of the first chemical and at least a portion of the second chemical react to form the carbon- and transition metal-containing film, wherein the first chemical is one of a transition metal chemical and an organometallic chemical, and the second chemical is the other of the transition metal chemical and the organometallic chemical, ***the organometallic chemical including carbon and a metal, the transition metal chemical and the organometallic chemical reacting together such that carbon from the organometallic chemical and transition metal from the transition metal chemical together form a carbon- and transition metal-containing film on the substrate.***"

Moreover, the prior art teaches away from the use of a transition metal chemical and an organometallic chemical to form a transition metal carbide or the like. For example, the text "The Chemistry of Metal CVD" discussed at paragraph [0024] of the present specification teaches that nucleation promoters such as $TiCl_4$ and certain other transition metal chemicals are known to help initiate growth of aluminum films on a substrate, grown through nucleation of aluminum from the organometallic chemical triisobutyl aluminum (TIBA).

Claims 3 and 15 are cancelled as subsumed in amended claim 1. Claim 11 is amended to correct a typographical error. Claims 16-17 are amended to correct dependencies in view

of the cancellation of claim 15. Claims 10-11, 16-18, 29-30, 45, 58, and 65 are amended to correct improper *Markush* expressions.

In the event that the examiner determines that additional issues remain or to suggest further amendments for putting the claims in condition for allowance, the examiner is invited to contact the undersigned attorney by telephone at the number listed below.

Respectfully submitted,

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